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Kea prefers an animal with long fleece to which it can cling. It would seem, moreover, that the bird is after the fat rather than the flesh. A Kea has never been seen on a dead body, and the probabilities are that it also feeds on the blood. The various stories told of the Kea are then true in part—it does attack sheep. But it is naturally carnivorous, for, in addition to fruits and grains, it feeds on insects. It has, then, not changed its régime in adding mutton to its mênu; it has simply extended its depredations. Revue Scientif., Aug., 1895, p. 248.)

ANTHROPOLOGY.[1]

A preliminary examination of aboriginal remains near Pine Island, Marco, West Florida.—The significance of Colonel Durnford's able and interesting communication to the AMERICAN NATURALIST for November, 1895, descriptive of his discoveries in South West Florida last Spring, may gain force, it is thought by the courteous Editor of this Department, if I add a few comments in regard to my own later observations in the same field, and in regard to the relation this find seems to bear to Eastern American Archeology in general.

It was my good fortune to be under the care of Doctor William Pepper and at the Hospital of the University of Pennsylvania when Colonel Durnford called at the Museum of the University and exhibited a few of his valuable specimens to its Director, Mr. Stewart Culin. It was also my good fortune both to meet Colonel Durnford and see his specimens at the time, and to receive from him then a full account of, and later, a series of detailed notes upon, his exploration.

From these communications and from examination of the articles he brought, I inferred that probably Colonel Durnford had investigated not an isolated place of the sort he so well describes, but a typical deposit such as might, by further search, be discovered in connection with other shell settlements in the same region. I therefore did not hesitate to pronounce this find of his one of the most important yet made on our southern coasts, and with a view to ascertaining more relative to its nature and to learning whether my inference in regard to its typical character was tenable or not, I gladly seized the opportunity afforded by the suggestion of Doctor Pepper, (whose views coincided with mine) that I extend a health-trip in the South, to the scenes of Colonel Durnford's excavation, and, in the interest of the Archæological Association of the University of Pennsylvania, make examinations and, so far as might be collections there.

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[1] The department is edited by Henry C. Mercer, University of Penna, Phila.

On reaching Florida, I found that it was impracticable to proceed beyond Punta Gorda, directly to the place Colonel Durnford and Mr. Wilkins had excavated. Procuring at this place a little sloop and two men, I therefore followed a somewhat round about course, exploring the greater number of keys or little islands lying along the way thence southward to the point in question, namely Collier's, near Marco. At the first key examined, some fifteen miles south of Punta Gorda, I found to my astonishment, that all its heights had resulted from artificial accumulations of shells, not irregularly piled up, like mere refuse heaps, but more or less structurally and regularly reared on a shallow reef in relatively shoal waters, to serve apparently as the core or central foundation of a village of enormous extent. These heights were fringed interruptedly by lower platforms and long, out-reaching winrows, so to say, of additional shell accumulations, some several feet high, others scarcely elevated above the level of high tide. Penetrating portions alike of these low shell embankments and of the central tumuli or cores, were openings long, narrow, and measurably straight through which the waters of the bay still to some extent ebbed and flowed. When seen from the highest points (for every portion of the key was covered with a tangled jungle of trees, vines and tropical plants, agaves and cacti, and when looked at from below was hidden by the dark, dense margin of mangoes) these openings seemed all to tend toward some central point or points; and on descending and following one of them I was led into a veritable water-plaza around which clustered the gigantic mounds of shell—each set of them between its channel-like openings. I then realized that this central space—which had an irregular extent of more than an acre—was the filled up basin of a shallow lake formed rather by the rearing of structures around it than by other artificial means, and now filled to high tide level by washings from these heights and by growths of aquatic plants. I further realized that the openings leading into this place were actual canals, preserved or kept clear between the shell mounds or platforms, etc., for the passage in and out of the canoes of the dwellers on and around the heights. An examination of the sides of the highest of the central shell mounds or cores surrounding this water-plaza or lake court, revealed ere long a fairly well preserved road-way leading up to near the summit of the mound, and with eyes thus opened, I soon found other, though less distinct roadways or trails on the shell slopes, leading up to lesser heights around. Following these trails down to what was once the water's edge of the lake (which was even now so marshy that I could not excavate it with so limited a force) I found more than a hundred of the typical pierced busycon shells or conchas, such as had once (I later determined) served as the armatures or heads of hammers, clubs, picks, hoes and chisels or celts, etc., as was even then manifest to me in the various forms (pecked or ground) of their more tapering portions or whorl ends.[1] Thus I was at once convinced that this was another such place,—shell heaps, canals, central lagoon and all, as Colonel Durnford had described, yet on a scale so vast that I could scarcely believe it to have been artificial, wholly the work of human hands. What I have here described was more or less typical of no fewer than eleven others of these shell settlements later examined on various keys or on out-lying reefs of Pine Island, and the mainland below Punta Rassa. In the lagoon of one of the lower keys (off Pine Island), I was able to excavate sufficiently to determine that it too, contained the remains of objects of arts as was evidenced by a wattling plummet, a hammer stone (rare indeed in those parts where shell and bone seem to have replaced to a great extent the stone so common in other ancient camp sites) and a busycon shell pick *still mounted on its original handle of mango wood!* With this find I was convinced of the typical nature of the original Collier muck-bed as described in Colonel Durnford's notes, even ere I saw it, and the discovery here, and later in the edge of one of the great canals of the contiguous island, of the remains of pile work, suggested that these great shell settlements had been surrounded inside and out by post-supported platforms, from which alike implements, etc., now found in the mud as described by Colonel Durnford, and the shell rows or heaps alongside, which I have designated winrows, had been dropped. This, eked out by many later observations, solved the problem of the origin, as well as of the structural character of these great shell settlements. On reaching Collier's, I was most courteously received by Mr. and Mrs. Collier. Excavations alongside the diggings of Mr. Wilkins and Colonel Durnford, and still further in toward the center and one side of the muck bed, although made under water mostly (for the rainy season had set in) revealed within the few hours I could devote to the work other relics of the kind Colonel Durnford has described—net-pins, seinestays, small fragments of netting, and the like, as well as rope made of palmetto and agave fibre, burnt thatch, a long and beautifully finished spar or post, fragments of a burnt mud hearth and of pottery, some highly finished, wattling plummets and sinkers, two beautifully shaped fish clubs, five mounted busycon shells, one of which was edged to serve as a celt, several of the shell funnels (which proved to have been mounted on handles as spoons) many necklace pendants, gourds, seeds, etc., etc. Some of the art remains found here and on the surrounding low, but very extensive shell mounds, as well as at other settlements, strongly indicated, as did skulls later dug from a shell burial place to the northward on Sanybal Island, a far southern origin of the builders of these works, at least of the oldest of them. Moreover, the study of these shell settlements and of their art remains, has been found by me to have a most important and explicit bearing on the archeology of at least the Mississippi and contiguous regions, in other words on the Mound Builder question; points which it is believed the expedition I am hoping soon to conduct to Florida under the joint auspices of the University Association and the Bureau of American Ethnology will clear up and to some extent demonstrate or establish. But even if these indications of a hasty reconnissance be not all borne out by more careful examination of the field, still, this find of Colonel Durnford's seems to have been typical, to relate at least to a hitherto unthought of phase of aboriginal life, to relate also to a period indefinitely antedating the time of Columbian Discovery, and hence giving us, as have the cliff dwellings—so opposite in character—well preserved remains of the perishable work of prehistoric stone-age (or, in this case, shell-age) men, and is thus the most important of Archeologic finds recently brought to notice. The Archeological Association of the University of Pennsylvania is therefore to be congratulated on the uuique opportunity far research in a comparatively new field which Colonel Durnford's scientific disinterestedness and generosity has made possible.—FRANK HAMILTON CUSHING.

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[1] I find, and it gives me pleasure to state here that in some of his earliest admirable communications to this Magazine relative to the Mounds of St. John's River, Florida, Mr. Clarence Moore arrives at almost identical conclusions regarding the uses of these pierced shells, and that my later finds in the mucks beds of old lagoons on Demorest's key and at Collier's fully confirm these conclusions.

PROCEEDINGS OF SCIENTIFIC SOCIETIES.

The National Academy of Sciences.—A scientific session of the Academy was held at Philadelphia, in the Laboratory of Hygiene of the University of Pennsylvania, beginning Tuesday, October 29, 1895, at 11 o'clock A. M. and continuing through the following day. The papers presented were as follows: